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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,182	10/16/2001	John M. Schnizlein	50325-0560	5410

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EXAMINER
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MOORTHY, ARAVIND K

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/981,182		SCHNIZLEIN ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Aravind K. Moorthy		2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-11,26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-11,26 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. This is in response to the RCE filed on 12 June 2006.
2. Claims 1, 3-11 and 26-38 are pending in the application.
3. Claims 1, 3-11 and 26-38 have been rejected.
4. Claims 2 and 12-25 have been cancelled.

#### ***Continued Examination Under 37 CFR 1.114***

5. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 June 2006 has been entered.

#### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 3-11 and 25-27 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. **Claim 28 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

Claim 28 is directed towards a computer-readable medium carrying one or more sequences of instructions for assigning a network address to a host based on authentication for a physical connection between the host and an intermediate device. The examiner refers the

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applicant to the specification (page 30, lines 8-15). The applicant claims the term "computer-readable medium" as a medium that may take form of a transmission media. When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer."). Such a result would exalt form over substance. In *re Sarkar*, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978) ("[E]ach invention must be evaluated as claimed; yet semantogenic considerations preclude a determination based solely on words appearing in the claims. In the final analysis under Sec. 101, the claimed invention, as a whole, must be evaluated for what it is.") (quoted with approval in *Abele*, 684 F.2d at 907, 214 USPQ at 687).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**8. Claims 1, 3, 6, 7, 9-11, 26-30, 32-35, 37 and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Sawada et al US 2002/0016858 A1.**

As to claim 1, Sawada et al discloses a method of assigning a network address to a host based on authentication for a physical connection between the host and an intermediate device, the method comprising the computer-implemented steps of:

receiving, at a router hosting an authenticator process for the host, from a first server that provides authentication and authorization, in response to a request for authentication for the physical connection, first data indicating at least some of authentication and authorization information [0183];

receiving, at a DHCP relay agent process of the router, from the host, a DHCP discovery message for discovering a logical network address for the host [0233-0237];

generating at the DHCP relay agent process a second message based on the DHCP discovery message and the first data [0233-0237]; and

sending the second message from the DHCP relay agent process to a DHCP server that provides the logical network address for the host [0233-0237].

wherein generating the second message further comprises the step of sending a third message, from the authenticator process to the relay agent process, that contains at least some of the authentication and authorization information based on the first data [0233-0237].

As to claims 3, 29 and 34, Sawada et al discloses a method as recited, wherein:

step of generating the second message further comprises the steps of:

storing second data based on the first data by the authenticator process [column 20 line 65 to column 21 line 61]; and

retrieving the second data by the relay agent process in response to the step of receiving the first message [column 20 line 65 to column 21 line 61].

As to claim 6, Sawada et al discloses that the physical connection comprises an Ethernet interface card on the router [0071].

As to claims 7, 30 and 35, Sawada et al discloses that the physical connection comprises a wireless Ethernet encryption key and time slot [0071].

As to claim 9, Sawada et al discloses that the second message is based on a dynamic host configuration protocol (DHCP) [0233-0237].

As to claims 10, 32 and 37, Sawada et al discloses that the first data includes user class data indicating a particular group of one or more authorized users of the host [0137]. Sawada et al discloses that the step of generating the second message is further based on the user class data [0137].

As to claims 11, 33 and 38, Sawada et al discloses a method as recited, wherein:

the first data includes credential data indicating authentication is performed by the first server [0133], and

the step of generating the second message is further based on the credential data [0133].

As to claim 26, Sawada et al discloses an apparatus for assigning a network address to a host based on authentication for a physical connection between the host and an intermediate device, comprising:

means for receiving, at a router hosting an authenticator process for the host, from a first server that provides authentication and authorization, in response to a request for authentication for the physical connection, first data indicating at least some of authentication and authorization information [0183];

means for receiving, at a DHCP relay agent process of the router, from the host, a DHCP discovery message for discovering a logical network address for the host [0233-0237];

means for generating at the DHCP relay agent process a second message based on the DHCP discovery message and the first data [0233-0237]; and

means for sending the second message from the DHCP relay agent process to a DHCP server that provides the logical network address for the host [0233-0237];

wherein generating the second message further comprises the step of sending a third message, from the authenticator process to the relay

agent process, that contains at least some of the authentication and authorization information based on the first data [0233-0237].

As to claim 27, Sawada et al discloses an apparatus for assigning a network address to a host based on authentication for a physical connection between the host and an intermediate device, comprising:

- a network interface that is coupled to a data network for receiving one or more packet flows therefrom [0071];

- a physical connection that is coupled to the host [0071];

- a processor [0071];

- one or more stored sequences of instructions which, when executed by the processor, cause the processor to carry out the steps of:

  - receiving, at an authenticator process for the host, through the network interface from a first server that provides authentication and authorization, in response to a request for authentication for the physical connection, first data indicating at least some of authentication and authorization information [0183];

  - receiving, at a DHCP relay agent process, through the physical connection from the host, a DHCP discovery message for discovering a logical network address for the host [0233-0237];

  - generating at the DHCP relay agent process a second message based on the DHCP discovery message and the first data [0233-0237]; and



sending through the network interface the second message from the DHCP relay agent process to a DHCP server that provides the logical network address for the host [0233-0237];

wherein generating the second message further comprises the step of sending a third message, from the authenticator process to the relay agent process, that contains at least some of the authentication and authorization information based on the first data [0233-0237].

As to claim 28, Sawada et al discloses a computer-readable medium carrying one or more sequences of instructions for assigning a network address to a host based on authentication for a physical connection between the host and an intermediate device, which instructions, when executed by one or more processors, cause the one or more processors to carry out the steps of:

receiving, at a router hosting an authenticator process for the host, from a first server that provides authentication and authorization, in response to a request for authentication for the physical connection, first data indicating at least some of authentication and authorization information [0183];

receiving, at a DHCP relay agent process of the router, from the host, a DHCP discovery message for discovering a logical network address for the host [0233-0237];

generating at the DHCP relay agent process a second message based on the DHCP discovery message and the first data [0233-0237]; and

sending the second message from the DHCP relay agent process to a DHCP server that provides the logical network address for the host [0233-0237];

wherein generating the second message further comprises sending a third message, from the authenticator process to the relay agent process, that contains at least some of the authentication and authorization information based on the first data [0233-0237].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**9. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada et al US 2002/0016858 A1 as applied to claim 1 above, and further in view of Park US 2002/0026573 A1.**

As to claims 4 and 5, Sawada et al does not teach that the first server is an authentication, authorization and accounting server. Sawada et al does not teach that the first server is a RADIUS protocol server.

Park teaches an authentication, authorization and accounting (AAA) server that uses the RADIUS protocol [0013].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Sawada et al so that the first server could have been an AAA server that utilized the RADIUS protocol.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Sawada et al by the teaching of Park because the RADIUS

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protocol message has an authenticator field for authenticating the value of the authenticator is a value that the Foreign Agent produces arbitrarily. This value is not to be repeated; a value that has been used beforehand should not be used again. The reason why the authenticator is used as an arbitrary value is to prevent a hacker from stealing a message for malicious purposes. If the authenticator were fixed according to a message, a hacker could get a normal access-accept message from the AAA server by using the authenticator of a message produced on the basis of the commonly held secret key even though the hacker is not privy to the value of the shared secret key. Thus, the authenticator value needs to be changed every time a message is generated, thereby preventing the hacker from attacking [0013].

**10. Claims 8, 31 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada et al US 2002/0016858 A1 as applied to claims 1, 26 and 27 above, and further in view of Bahl et al U.S. Patent No. 6,782,422 B1.**

As to claims 8, 31 and 36, Sawada et al does not teach that the request for authentication is based on an Institute of Electrical and Electronics Engineers (IEEE) 802.1x standard.

Bahl et al teaches authentication based on an Institute of Electrical and Electronics Engineers (IEEE) 802.1x standard [column 11, lines 52-58].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Sawada et al so that the request for authentication was based on an Institute of Electrical and Electronics Engineers (IEEE) 802.1x standard.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Sawada et al by the teaching of Bahl et al because that

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standard of protocol is more secure connection and higher level of authentication [column 11, lines 52-58].

*Conclusion*

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K. Moorthy whose telephone number is 571-272-3793. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Aravind K Moorthy  
August 15, 2006



CHRISTOPHER REVAI  
PRIMARY EXAMINER

